

What is claimed is:

1. A lens system comprising:  
a positive element, positioned in an optical path of incident light, including a first negative lens, a convex lens and a hologram optical element; and  
a negative element, positioned in the optical path, including a second negative lens.
2. The lens system of claim 1, wherein the hologram optical element is formed on at least one surface of the first negative lens and the convex lens constituting the positive element.
3. The lens system of claim 1, wherein the first negative lens is made of polycarbonate.
4. The lens system of claim 1, wherein the first negative lens has a focal power ranging from 0.1 to 0.2.
5. The lens system of claim 1, wherein the second negative lens is made of polystyrene.
6. The lens system of claim 1, wherein the second negative lens has a focal power ranging from 0.5 to 0.7.
7. The lens system of claim 1, wherein at least one of the first negative lens, the convex lens and the second negative lens has at least one aspheric surface.

8. A lens system comprising:
- a positive element, positioned in an optical path of incident light, including a positive lens, a convex lens and a hologram optical element; and
- a negative element, positioned in the optical path, including a negative lens.
9. The lens system of claim 8, wherein the hologram optical element is formed on at least one surface of the positive lens and the convex lens constituting the positive element.
10. The lens system of claim 8, wherein the positive lens in the form of a meniscus is made of acryl.
11. The lens system of claim 8, wherein the positive lens is positioned at a distance of 0.15 to 0.25 times a focal length of the lens system from an object imaged by said lens system.
12. The lens system of claim 8, wherein the negative lens is made of polystyrene.
13. The lens system of claim 8, wherein the negative lens has a focal power ranging from 0.2 to 0.3.
14. The lens system of claim 8, further comprising an auxiliary element, which is a double-convex lens, positioned in an optical path between the positive element and the negative element.
15. The lens system of claim 14, wherein the auxiliary element is made of acryl.

16. The lens system of claim 8, wherein the hologram optical element has a focal power ranging from 0.01 to 0.1.

17. The lens system of claim 8, wherein the hologram optical element has a phase profile  $V_H$  defined by the following equation:

$$V_H = A_1 y^2 + A_2 y^4 + A_3 y^6$$

where  $A_1$  is a coefficient that is proportional to a focal power of the hologram optical element,  $A_2$  is a coefficient that is proportional to spherical aberration caused by the positive element,  $A_3$  is a coefficient that is proportional to spherical aberration caused by the negative element, and  $y$  is the distance from an optical axis of the lens system measured at right angle to the optical axis.

18. The lens system of claim 8, wherein the convex lens is a double-convex lens and is made of acryl.

19. The lens system of claim 8, wherein the convex lens has a focal power ranging from 0.35 to 0.4.

20. An objective lens system for imaging a light from an object, the objective lens system comprising:

a lens system including:

a positive element, positioned in an optical path of the light from the object, including a first negative lens, a convex lens and a hologram optical element; and

a negative element, positioned in the optical path after the positive element, including a second negative lens.

21. An objective lens system for imaging a light from an object, the objective lens system comprising:

a lens system including:

a positive element, positioned in an optical path of the light, including a positive lens, a convex lens and a hologram optical element; and

a negative element, positioned in the optical path after the positive element, including a negative lens.

22. An optical projection system for projecting a light emitted from an optical light source on a screen, the optical projection system comprising:

a lens system including:

a positive element, positioned in an optical path of the light, including a first negative lens, a convex lens and a hologram optical element; and

a negative element, positioned in the optical path before the positive element, including a second negative lens; and

a coupler configured to connect the optical light source to the lens system.

23. An optical projection system for projecting a light emitted from an optical light source on a screen, the optical projection system comprising:

a lens system including:

a positive element, positioned in an optical path of the light, including a positive lens, a convex lens and a hologram optical element; and

a negative element, positioned in the optical path before the positive element, including a negative lens; and

a coupler configured to connect the optical light source to the lens system.